

# **Imperial Railways of North China.**

Report for the Year ended 31st December, 1910.

Published for circulation by order of the Directors.

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# Imperial Railways of North China.

## GENERAL REPORT.

The Directors submit the following report with particulars of the main features of the working of the railways during the year 1910.

The Earnings and Expenditure of the railways, summarised and compared with the previous year, are as follows:—

	Year ended 31st December	
	1909	1910
	\$	\$
Earnings . . . . .	11,370,711.22	10,928,242.31
Expenditure . . . . .	3,653,648.45	3,474,187.35
Balance after paying Working Expenses	\$ 7,717,062.77	\$ 7,454,054.96
Ratio of Working Expenses to Earnings	32.1%	31.7%

The reduction in earnings has been due entirely to causes beyond the control of the railway authorities. Owing to a shortage of food supplies in districts north of the Great Wall, all exports of grain from this zone were prohibited. However, towards the end of the year, the restriction was withdrawn. The earnings of the district inside the Great Wall also suffered through a large reduction in the tonnage of tribute rice sent by provinces in South China to Peking. Other factors also contributed to the reduction but in a lesser degree.

**Mileage**—There has been no change in the number of miles of main line open to traffic.

**Loans**—The annual amortisation of the Imperial Chinese Railways 5% Gold Loan of 1899 took place on 1st August, 1910, when the Sixth Annual Drawing reduced the loan by £ 57,500 to £ 1,955,000. The half yearly payments in reduction of the South Manchuria Railway Gold Loan have also been met according to schedule.

**Exchange**—The monthly remittances to London for repayment of Loan Capital and Loan Interest were made at the average rate of 2/6<sup>9</sup>/<sub>16</sub> per Tientsin Tael.

**Engineer-in-Chief**—Mr. D. Poyntz Ricketts took over his new duties on 3rd February, 1910.

**Staff**—The Directors thanks the Staff for their hearty co-operation during the year.

Loo Etong, *Managing Director*

Shu Yin Chi, *Director*



# IMPERIAL RAILWAYS OF NORTH CHINA.

## STATEMENT OF ACCOUNTS

FOR THE YEAR ENDED 31st DECEMBER, 1910.

No. 1

### Capital Authorised and Created.

DETAILS	Capital Authorised			Capital Created			Balance		
	Stock and Shares	Loans	Total	Stock and Shares	Loans	Total	Stock and Shares	Loans	Total
Imperial Chinese Government and Chinese Shareholders . . . . .	\$ 21,994,428.57	—	21,994,428.57	\$ 21,994,428.57	—	21,994,428.57	\$	\$	\$
Under Loan Agreement 1899, £ 2,300,000. . . . .	—	27,600,000.00	27,600,000.00	—	27,600,000.00	27,600,000.00			
Under Japanese Loan Agreements, South Manchuria Rly. Loan, 1909, Gold Yen 320,000. . . . .	—	377,142.86	377,142.86	—	377,142.86	377,142.86			
	\$ 21,994,428.57	27,977,142.86	49,971,571.43	\$ 21,994,428.57	27,977,142.86	49,971,571.43			

### No. 2 Stock and Share Capital Created Showing Proportion Issued.

	Amount Created	Amount Issued	Amount Unissued
Imperial Chinese Government and Chinese Shareholders . . . . .	\$ 21,994,428.57	\$ 21,994,428.57	\$ —
	\$ 21,994,428.57	\$ 21,994,428.57	\$ —

No. 3

### Capital Raised by Debenture Stock.

<b>Imperial Chinese 5% Railway Loan, 1899</b> (original amount of Loan £ 2,300,000).		\$
Existing at 31st December 1909 . . . . .	£ 2,012,500	24,150,000
Bonds of Sixth Drawing paid off . . . . .	57,500	690,000
Existing at 31st December, 1910 . . . . .	£ 1,955,000	23,460,000
Of which there was invested in the Hongkong & Shanghai Bank, London, at 31st December, 1909	£ 212,201. 5.4	2,546,415.18
Less Withdrawals . . . . .	61,537. 15.2	738,453.08
Leaving invested in the Hongkong & Shanghai Bank, London, at 31st December, 1910	£ 150,663. 10.2	1,807,962.10
<b>South Manchuria Railway Loan, 1909</b> , (original amount of Loan G. Yen 320,000.00)		
Existing at 31st December, 1910 . . . . .	G. Yen 302,222.24	

No. 4

### Receipts and Expenditure on Capital Account.

Dr.

	Total to 31st Dec. 1909	Amount expended in Year 1910	Total to 31st Dec. 1910		Total to 31st Dec. 1909	During Year 1910	Total to 31st Dec. 1910
<b>To Expenditure</b>	\$	\$	\$	<b>By Receipts</b>	\$	\$	\$
Lines open for Traffic . . . . .	47,245,485.01	—	47,245,485.01	Shares . . . . .	21,004,428.57	—	21,004,428.57
Authorised by High Court of Chancery . . . . .	—	1,139,123.98	1,139,123.98	Debenture Stock . . . . .	27,000,000.00	—	27,000,000.00
New Steamer . . . . .	—	264,000.00	264,000.00	South Manchuria Rly. Loan	377,142.86	—	377,142.86
	\$ 47,245,485.01	1,403,123.98	48,648,608.99				
<b>Balance . . . . .</b>			1,322,962.44				
			\$ 49,971,571.43				\$ 49,971,571.43

No. 5

### Details of Expenditure on Capital Account.

Land and Earthworks . . . . .	\$ 114,354.05
Rolling Stock . . . . .	375,094.31
Tongshan Works . . . . .	131,779.03
Shanhaikwan Bridge Works . . . . .	23,797.41
New Head Office Buildings . . . . .	141,799.05
Stations . . . . .	100,542.90
Bridges . . . . .	60,062.47
Miscellaneous . . . . .	92,094.16
	\$ 1,139,123.98

No. 6

### Expenditure on Capital Works paid for from Revenue.

Betterments to:	\$
Tongshan Engineering College. New buildings & equipment . . . . .	76,466.25
Hsinminfu — Mukden Line — East of Liao River Section . . . . .	49,698.71
Expended during Current Year . . . . .	126,164.96
Expended in Previous Years . . . . .	8,777,450.33
	\$ 8,903,585.29



No. 7

# Revenue Account

Dr.	\$	\$	Cr.	\$
To Maintenance of Way, Works and Stations as per Abstract A . . .	775,926.82		By Earnings:	
Locomotive, Carriage and Wagon Expenses as per Abstract B . . .	1,637,803.09		Passengers . . . . .	5,141,402.46
Traffic Expenses as per Abstract D .	404,661.40		Goods . . . . .	5,394,226.01
General Charges " " E . . . . .	655,795.94	3,474,187.95	Military Traffic . . . . .	29,215.33
			Miscellaneous Receipts . . . . .	244,098.76
			Chinese Government Traffic . . . . .	119,290.75
Balance carried to Net Revenue Account . . .		7,454,054.96		
	\$ 10,928,242.81			\$ 10,928,242.81

No. 8

# Net Revenue Account

Dr.	\$	\$	Cr.	\$
To Debenture Loan, Sixth instalment repaid . . .	690,000.00		By Balance forward from last year . . .	5,641,358.02
Interest . . . . .	1,117,111.96		Balance transferred from Revenue Account .	7,454,054.96
Chinese Shares, Interest . . . . .	25,081.43			
S.M.R. Loan, part capital repaid . . . . .	20,793.02			
Interest . . . . .	18,458.72			
Paid to Imp. Chinese Government . . . . .	4,068,133.87			
Mining Prospects . . . . .	6,459.90			
Shipping Department . . . . .	18,399.87			
Tongshan College, Upkeep . . . . .	71,938.71			
Bonus to Employees . . . . .	187,014.68			
Betterments, being amount taken from Revenue for Capital Works . . . . .	126,134.96			
Balance . . . . .	6,745,886.26			
	\$ 13,095,412.98			\$ 13,095,412.98

No. 9

# General Balance Sheet

Dr.	\$	\$	Cr.	\$
Capital Account, Balance per No. 4 . . . . .	1,322,962.44		Hongkong and Shanghai Bank, London . . .	
Salaries and Wages due . . . . .	215,996.26		Loan Funds, on Deposit Receipt. £100,000	
Sundry Creditors . . . . .	94,287.93		Loan Funds, on Current Account. 50,663.10.2	1,807,962.10
B.R.A. Balance taken over . . . . .	3,293,107.44		Revenue Funds, on Deposit Rect. £ 40,000	
Net Revenue A/c. Balance at Credit per No. 8 .	6,745,886.26		Revenue Funds, on Current Account "A" . . . . .	59,989.19.1
			To meet repayment of Loan Capital . . . . .	262,578.03
			Cash with foreign Banks in China . . . . .	
			On Deposit Receipt . . . . . \$ 1,495,714.29	
			On Current Account . . . . . 1,001,022.40	2,496,736.69
			Cash on hand in Head Office . . . . .	269,085.87
			Stores . . . . .	3,072,815.74
			Investments . . . . .	1,167,860.51
			Traffic Accounts due to the Railway . . . . .	375,708.43
			Other Accounts due to the Railway . . . . .	488,900.10
			Accounts due by other Railways . . . . .	530,703.82
	\$ 11,672,240.83			\$ 11,672,240.83

Wm. Henderson, C. A.,  
Chief Accountant

# ABSTRACTS.

## A. Maintenance of Way, Works and Station.

Year ending 31st December, 1910	15 Months ending 31st December, 1909
\$ 174,403.29	\$ 246,992.11
Salaries, Office Expenses and General Superintendence . . . . .	
Maintenance and Renewal of Permanent Way:—	
Wages . . . . .	408,478.78
Materials . . . . .	249,082.24
	657,561.02
Repairs of Bridges.	
Wages . . . . .	49,586.24
Materials . . . . .	60,214.10
	109,800.34
Repairs of Stations and Buildings.	57,559.18
	\$ 1,071,912.65

## B. & C. Locomotive Power and Rolling Stock Repairs.

Year ending 31st December, 1910	15 Months ending 31st December, 1909
\$ 130,542.21	\$ 175,247.50
Salaries, Office Expenses and General Superintendence . . . . .	
Running Expenses	
Wages connected with working Locomotive Engines . . . . .	178,017.17
Coal . . . . .	607,952.37
Water . . . . .	53,326.01
Oil, Tallow and other Stores . . . . .	67,988.21
	907,283.76
Maintenance and Renewal of Locomotives and Machinery:—	
Wages . . . . .	441,052.83
Materials . . . . .	281,344.03
	722,396.86
Repairs and Renewals of Cars:	
Coaching Vehicles:	
Wages . . . . .	62,951.37
Materials . . . . .	63,119.67
	126,071.04
Goods Vehicles:	
Wages . . . . .	97,993.38
Materials . . . . .	137,026.89
	235,020.27
Cleaning Carriages and Oiling . . . . .	66,688.13
Steam Ferry at Newchwang . . . . .	2,232,707.56
	22,098.54
	\$ 2,254,806.10



### D. Traffic Expenses.

Year ending 31st December, 1910			15 Months ending 31st December, 1909	
\$	\$		\$	\$
82,719.37		General Superintendence	111,943.20	
207,844.40		Wages of Station Staff	248,045.66	
60,716.99		Wages of Train Staff	73,035.56	
46,949.06		Lighting and Small Stores	57,200.64	
		Wagon Covers, Ropes, etc.	5.65	
6,431.58		Station Fittings and Furniture	5,177.63	
	404,661.40			495,408.34

### E. General Charges.

Year ending 31st December, 1910			15 Months ending 31st December, 1909	
\$	\$		\$	\$
274,834.46		General Superintendence	332,208.75	
66,519.92		Accountant's Department	78,206.01	
91,352.71		Stores Department	42,526.10	
45,497.97		Medical Department	60,353.28	
10,005.70		Rents of Buildings and Lands	12,947.37	
106,371.81		Police	149,658.39	
117,156.81		Telegraph Department	156,458.99	
68,708.51		Stationery and Printing	55,887.66	
2,659.57		Compensation	2,858.66	
54,627.89		Sundries	43,724.85	
837,735.35			934,830.06	
Cr. 181,939.41		Interest, &c.	Cr. 202,943.83	
	655,795.94			731,886.23

### EARNINGS.

Year ending 31st December, 1910			15 Months ending 31st December, 1909	
\$	\$		\$	\$
5,141,402.46		Passengers	6,043,572.71	
5,394,226.01		Goods	7,532,638.01	
29,215.33		Military Traffic	46,920.27	
244,098.76		Miscellaneous Receipts	414,605.84	
119,299.75		Chinese Government Traffic	307,464.91	
	10,928,242.31			14,345,201.74

### AUDITOR'S CERTIFICATE.

The accounts for the year ended 31st December, 1910, as stated, contain, in my opinion, a full and true statement of the financial condition of the Railway, and the revenue has, in my judgment, been charged with all expenses which ought to be paid thereout. The interest and redemption of the Loan during the year have been fully met.

Tientsin, 23rd February, 1911.

A. F. Algie,  
*Auditor.*

### ENGINEER-IN-CHIEF'S CERTIFICATE.

I hereby certify that the Permanent Way, Bridges, Stations and other Buildings have been maintained in good order during the year 1910.

Tongshan, 21st January, 1911.

D. Poyntz. Ricketts,  
*Engineer-in-Chief.*

### LOCOMOTIVE SUPERINTENDENT'S CERTIFICATE.

I hereby certify that the Plant, Engines, Cars, Machinery and Tools have been maintained in good repair.

Tongshan, 28th December, 1910.

F. A. Jamieson,  
*Locomotive Superintendent.*



# REPORT ON PERMANENT WAY DEPARTMENT.

Main line . . . . .	602.80 Miles.
Sidings, permanent . . . . .	144.04
temporary . . . . .	4.21
Total	148.25
Increase of Sidings, permanent 4.58 increased	
temporary 0.06 decreased	
Nett Total	4.52

187,487 New Sleepers have been changed.  
 28 Rails old section 60 lb. have been changed.  
 13 Rails 85 lb. have been changed.  
 12 Rails new section 60 lb. have been changed.  
 0.62 mile of old section 60 lb. Rails in Siding have been replaced by new section 60 lb.  
 5,209 fangs of Ballast for maintenance has been used.  
 4,640 fangs of Ballast for new work has been used.  
 5,355 Floor ties have been renewed.

## New Bridges Completed:—

No. 21 (East of Tongku) 100-10 feet spans Timber beams have been replaced by steel.  
 Tientsin Station Footbridge extended 1 span 39 feet, and 1 span 69 feet 6 inches, with one extra ramp.  
 Tientsin City Station Subway has been extended to allow for three more tracks, 1 span 21'6" and 1 span 12'6".  
 Bridge No. 180 has been extended 2 spans of 12 feet.  
 Bridge No. 180 old piers and abutments raised 3'1".  
 Bridge No. 181 has been extended 1 span of 12 feet. Old piers and abutments raised 3'9".  
 Bridge No. 215A 1 span of 12 feet replacing culvert at Milepost 110.3250.  
 Bridge No. 233 has been extended 2 spans of 20 feet.  
 Bridge No. 16A 4 spans of 10 feet  
 Bridge No. 19A 6 spans of 10 feet } on Hsinminfu line.  
 Bridge No. 52 23 spans of 30 feet  
 5,118 fangs of rubble has been used for protective work.  
 (a) For maintenance . . . . . 2,163 fangs  
 (b) For new work . . . . . 2,955 fangs.  
 201,425 fangs of Earthwork executed:—  
 (a) For new work . . . . . 193,148 fangs  
 (b) For repairs . . . . . 8,277 fangs.

## Platforms Extended:—

Tientsin City Station, 1,175 feet timber wall has been replaced by masonry, and a 2,350 feet new masonry wall has been built.  
 Changchuang Station, 100 feet timber loading dock wall has been replaced by masonry.  
 Wanchuang Station, 200 feet timber loading dock wall has been replaced by masonry.

## New Buildings Erected:—

Chienmen New Post Office . . . . .	756	square feet.
Fengtai Quarters for Train Electric Light Staff . . . . .	627	do
Fengtai Train Shed and Boiler House . . . . .	34,558	do
Tientsin City Station, 2 Official and First Class Waiting Rooms . . . . .	4,032	do
Tientsin Level Crossing Gate House . . . . .	120	do
Hsinho New Police Quarters . . . . .	696	do
Tongku Office leased to Shansi Anthracite Company . . . . .	1,248	do
Cabin No. 20 (East of Tongku) enlarged . . . . .	166	do
Tongshan 2 Signal Cabins . . . . .	832	do
Tongshan Private Car Shed . . . . .	1,050	do
Shanbaikwan Engineers' Office . . . . .	1,644	do
Extension of Bridge Works, Manager's Office . . . . .	478	do
New Boiler House and alteration to Fitting Shop and Chimney in Bridge Works . . . . .	2,596	do
New Coal House in Bridge Works . . . . .	740	do
Sarhousou Railway Police Kitchen . . . . .	80	do
Ningyuanchow Engineer's Quarters Extension . . . . .	709	do
Ningyuanchow Coolies' Quarters Extension . . . . .	80	do
Koupantzu Station Waiting Halls . . . . .	2,000	do
Koupantzu Locomotive Office and Pump House . . . . .	750	do
Koupantzu Weigh bridge House . . . . .	81	do
Chingtuitzu Station Master's House . . . . .	750	do
Kaoshantzu New Station Building . . . . .	1,200	do
Hsinminfu Station Waiting Hall (1st Class) . . . . .	500	do
Yingkou Weigh bridge House . . . . .	130	do
Moukden Train Shed and Quarters . . . . .	35,884	do
Moukden Additional Police Quarters . . . . .	704	do
Moukden Covered Way, Traffic Inspectors Quarters . . . . .	144	do

Total . . . . . 92,555 square feet

The 50 feet Turntable in Tientsin has been replaced by one 55 feet diameter.  
 Signals erected. Tongshan Station, Main Line and Connecting roads signals have all been interlocked.  
 At Tientsin, one dwarf signal has been erected.  
 All signals have been altered so that horizontal arm now stands for "danger", and the inclined downwards stands for "line clear".

## Heavy Works Executed:—

**Tientsin City Station** (now called Tientsin Central Station). A large two-storied Administration Building is in course of construction. The Station has been widened for the junction with Tsinpu Railway. The down platform has been converted into an island platform, and a new down platform built. Three new tracks have been laid between these two platforms for use of Imperial Railways of North China trains, the Tsinpu Railway having the use of the old three tracks. A brick work Waiting Room has been built on each of these platforms, and the Subway extended, so as to serve for the new down platform.  
**Chienmen Station.** The platform has been almost entirely roofed, the area covered being 64,020 square feet. The roof is made of steel trusses, with corrugated iron covering and cast iron supports. The Track has been raised between Milepost 112.66 and 113.15 and a new concrete drain built.  
 The Track has been raised from 34.50 to 36.00 on the Hsinminfu line. Old Bridge No. 52 has been filled up, and a new bridge of 23-30 feet span has been built at No. 35.25, and 10,000 feet of dam constructed on West side of same.  
 The Track has been raised from Milepost No. 95.56 to No. 96.56, East of Huangti, and bridges No. 180 and No. 181 have been raised and extended.



Bank has been raised, and track has been laid from Hsinminfu to bridge No. 57, and ballasting has reached No. 39.75.  
Bridges Nos. 55 and 56 have been raised and 10-20 feet spans are being added to the latter.  
Old dam from bridge No. 54 to Hsinminfu has been raised, and new dam has been constructed in front of Hsinminfu Station and extended eastwards alongside the Railway for 3,000 feet.

#### Foreshore Protection:—

295 fangs of rubble and ballast have been used for repairs to Yingkow Bund.  
Wharfage, Yingkow Wharf bracing and fenders repaired.

#### Painting Executed for Maintenance:—

Bridges (East of Tongku) Nos. 12, 17, 31, to 47 inclusive.  
Bridges (West of Tongku) Nos. 9, 10, 11 and 14.  
Bridges comprising 12-12 feet, 1-20 feet, 18-24 or 25 feet, 6-30 feet, 2-45 feet, 1-50 feet, 2-58 feet, 7-90 feet and 2-200 feet.  
Bridges Nos. 133, 134 and 135.  
Bridges between Chenchow and Kaoshantzu.  
Bridges Nos. 316 and 317.  
Tongshan Locomotive and Traffic Inspector's Quarters.  
Tongku Station Fences.  
Fengtai Traffic and Track Inspectors' Quarters.  
Shanhaikwan Bridge Work Fitting Shop and Boiler House.  
Shanhaikwan Bridge Work Manager's Office.  
Shanhaikwan Traffic and Engineers' Staff Quarters.  
Ningyuanchow Engineer's Quarters verandah.  
Chenchow Station Buildings.  
Chenchow Traffic and Locomotive Staff Quarters.  
Chenchow Locomotive Office, Pump House and Boiler House.  
Koupantzu Engine Shed roof and Workshops.  
Koupantzu Foreign Staff Quarters.  
Koupantzu Turntable.  
Koupantzu Water Tank.  
Chuliho Engineer's and Traffic Staff Quarters and Station Building.  
Moukden Traffic and Locomotive Inspectors' and Conductors' Quarters.  
Yingkow Locomotive Office and Shed.  
Yingkow Ferry Boat and Pontoons.  
Yingkow Pontoon Bridges.  
Yingkow Engineers' Office and Inspectors' Quarters.  
All signal arms, station name posts, all mile and gradient stones, bridges, numbers, etc.

#### Water Supply Works:—

Tongho. New 10 feet tank erected for watering engines.  
Kuyeh. New bricklined well sunk.  
Lutai. New 10 feet tank erected for watering engines and supplied from main tank through a 4 inch pipe.  
Tongku. New 10 feet tank erected for watering engines and supplied from main tank through a 4 inch pipe.  
Tongku. New water crane erected and supplied from new tank through an 8 inch pipe.  
Fengtai. New 10 feet tank erected and an 8 feet well sunk to supply train shed.

#### Work in progress:—

Tientsin. Re-arrangement of Goods Yard.  
Bridge No. 21 (East of Tongku) clearing up material.  
Tientsin City Station Junction.  
Tientsin City Station, New Administration Offices.  
Raising Bank from Bridge No. 57 to Chuliho.  
Rubble protection to dam at Hsinminfu.  
Rail laying and ballasting on raised bank, Hsinminfu to Chuliho.  
Adding 10 spans of 30 feet to Bridge No. 56.  
Raising platforms of Hsinminfu and Chuliho Stations.

#### Rainfall and Floods:—

Fengtai 18 inches, Tongku 22 inches, Lanchow 24 inches, Shanhaikwan 33 1/2 inches, Ningyuanchow 27 3/4 inches, Koupantzu 25 1/4 inches, Chuliho 25 1/2 inches, Moukden 23 1/2 inches, and Yingkow 15 3/4 inches.  
After two previous floods which passed without damage in the Hsinminfu District, heavier rains were later experienced, and on August 22nd the Liuho again became flooded and stopped the native dam North of the Hsinminfu Station, breaching it in many places; thus flooding Hsinminfu Station to a depth of 2 feet above the rails.  
Two washouts, each of about 100 feet occurred in the Railway bank East of Hsinminfu Station. Through traffic had to be suspended for two days, passengers being transhipped at the washouts. Owing to this flood, the town of Hsinminfu suffered greatly, most of it being under water for several days; and about 1,000 houses collapsed. Nine inches of silt was deposited all over the station yard at Hsinminfu, otherwise the railway did not suffer to any great extent. The Liuho again rose on September 1st., and the station yard was again flooded, but traffic was not delayed. The dam at Hsinminfu now practically completed, except for rubble protection, and the raising of the line from Hsinminfu to Chuliho, should ensure the Railway being immune from danger of floods from Liuho for some time to come.

### Shanhaikwan Bridge Works.

The tonnage of work turned out was as follows:—

#### Girders:—

1 span 12 feet clear . . . . .	Tons	1.	12.	1.	8.
1 span 16 feet clear . . . . .		0.	17.	1.	20.
1 span 24 feet 7 inches clear . . . . .		1.	7.	1.	2.
2 spans 20 feet clear Differdange . . . . .		6.	12.	1.	4.
1 span 30 feet clear Differdange . . . . .		6.	1.	1.	9.
33 spans 35 feet 11 1/2 inches clear Differdange . . . . .		120.	13.	0.	9.
1 span 12 feet clear Differdange . . . . .		1.	6.	2.	0.
18 spans 20 feet clear Differdange . . . . .		59.	6.	0.	17.
2 spans 35 feet 10-1/8" clear with 2 intermediate principals for Peking Old platform Shed . . . . .		3.	13.	1.	6.
1 set Girders for Tientsin City Station Office . . . . .		6.	10.	3.	17.

Tons 208. 0. 2. 8.



**Special Work, Tanks etc:—**

1 10 feet diameter × 6 feet Water Tank . . . . .	Tons	2.	7.	0.	20.
3 8 feet 10 inches diameter × 6 feet Water Tanks . . . . .		4.	1.	6.	0.
1 20 feet diameter × 12 feet Water Tank . . . . .		6.	10.	0.	0.
2 8 feet 10 inches diameter × 6 feet Water Tanks . . . . .	Tons	2.	13.	3.	26.
3 Steel plate cylindrical oil tanks 12 feet × 2 feet 6 inches . . . . .		0.	18.	2.	21.
1 69 feet Steel Overbridge for Tientsin Station . . . . .		46.	9.	1.	8.
12 Cast Iron Columns and 48 Brackets for Tientsin City Station platform Sheds . . . . .		7.	4.	3.	14.
1 Island platform shed 1159 feet 9-3/8 inches × 38 feet 6 inches erected at Chienmen Station . . . . .		219.	19.	2.	11.
1500 feet Gantry with 22-70 lb. rail stanchions for Fengtai new Car Shed . . . . .		16.	15.	0.	27.
3 Roof trusses made for Bridge Works new Boiler House . . . . .		2.	8.	0.	4.
	Tons	309.	9.	1.	19.

**Miscellaneous:—**

Ironwork to the extent of . . . . .	Tons	78.	5.	7.	0.
14 sets Points and Crossings . . . . .	Tons	21.	17.	2.	0.
TOAL TONNAGE of Ironwork done . . . . .	Tons	618.	3.	0.	27.

**Foundry:—**

The Foundry has been fully employed upon castings for points and crossings, washout pump castings, heating fan and engines, turntable and miscellaneous castings for maintenance and construction, to the extent of Tons 239. 1. 0. 27.

**Improvement:—**

A new boiler with boiler house has been erected in these Works.

## GENERAL REPORT OF WORK CARRIED OUT BY LOCOMOTIVE AND CARRIAGE WORKS.

### Locomotives.

General overhaul . . . . .	49.
Repaired at Kaopantzu . . . . .	18.
New Engine built Type 2-6-0 Freight 19" × 24" cylinder; 5-0" drivers . . . . .	1.
New Engines built Type 4-6-0 Passenger 18" × 24" Cylinder; 5' 6" drivers . . . . .	2.
Engines under construction Type 4-6-0 18" × 24" Cylinder; 5' 6" drivers . . . . .	1.
Engines under construction Type 2-6-2 14" × 20" Cylinder; 3' 6" drivers . . . . .	2.
Engines under construction Type 2-6-0 17" × 14" Cylinder; 4' 6" drivers . . . . .	6.
Locomotives equipped with the Westinghouse brake . . . . .	5.
Locomotives equipped with the Westinghouse heating apparatus . . . . .	3.
New Boilers constructed . . . . .	11.
New Boilers under construction . . . . .	9.
New Fireboxes put in . . . . .	7.
Half sides put in . . . . .	28.
New tubeplates put in . . . . .	19.
New backplates put in . . . . .	8.
New set of tubes put in . . . . .	34.
Smoke box renewed . . . . .	3.
Boilers withdrawn from service . . . . .	7.
Shop boilers overhauled . . . . .	8.
Tenders built . . . . .	6.
Tenders repaired . . . . .	63.
Tenders under construction . . . . .	2.

### Steamers.

Boilers of the s.s. "Peiping" repaired.  
Ferry boat "Liaotung" generally overhauled.

### Coach and Car Repairs.

	No. of Cars sent in for repairs		
	Freight	Passengers	Brake Vans
At Tongshan Works . . . . .	1561	145	25
At Kaopantzu Works . . . . .	432	39	12
Total . . . . .	1993	184	37

Note:—At the Running Sheds 11,257 minor repairs were effected to Cars, and 27,842 axle boxes were repacked.



### Rolling Stock Completed.

First Class Coaches Drawing Room Type . . . . .	2
First Class Coaches Sleeping Coaches. . . . .	2
First Class Coaches Buffet Coaches . . . . .	2
Second Class Coaches Day Cars . . . . .	2
Second Class Coaches Sleeping Coaches . . . . .	2
Second Class Coaches Buffet and Kitchen . . . . .	2
Third Class. . . . .	4
Guard and Baggage Vans . . . . .	3
Electric light and Heating Vans . . . . .	3
Thirty ton Covered Goods . . . . .	30
Thirty ton Oil Tank Cars . . . . .	4

### Rolling Stock Under Construction.

Thirty ton Covered Goods . . . . .	20
Thirty ton Oil Tank Cars . . . . .	3
Twenty ton Covered Goods . . . . .	50
Guard and Baggage Vans . . . . .	2
Heating Car . . . . .	1

### Improvement to Rolling Stock.

Private Car No. 138 lengthened to 19 feet wheel base.	
Private Car No. 71 thoroughly overhauled.	
First Class No. 116 rebuilt as a corridor car.	
Buffet No. 148, First Drawing Room Coaches Nos. 206, 207 had new ends fitted to frames, end platforms enclosed and vestibules fitted . . . . .	3
20 Ton Cars rebuilt as 24 ton . . . . .	6
30 Ton Car rebuilt with steel sills . . . . .	1
No. of cars and wagons fitted with coupler locking pin lifting gear . . . . .	800
No. of wagons fitted with brake lever catches . . . . .	181
Tarpaulin rings fitted to 30 ton high sided cars . . . . .	213
Number of Coaches fitted with end platform gates . . . . .	7
Coaches electrically fitted during year . . . . .	30
Heating and Lighting Vans electrically fitted during year . . . . .	2
Freight stock electrically fitted during year . . . . .	8
Coaches equipped with Standard electric light couplings . . . . .	28

### Rolling Stock Withdrawn From Service.

Engine No. 43 scrapped.  
Brake Van No. 9 condemned.

### Rolling Stock Completed for other Railways.

#### Chuenhan Railway.

Second Class Coach . . . . .	1
Third Class Coach . . . . .	1
22 feet Brake Van . . . . .	1

#### Taoching Railway.

Thirty Ton High Sided Steel Cars . . . . .	25
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#### Kinhan Railway.

Forty Ton High Sided Cars . . . . .	100
Twenty Ton Covered Goods . . . . .	100

#### Kalgan Railway.

Thirty Ton High Sided Cars . . . . .	50
22 feet Brake Vans . . . . .	5

#### Kirin Railway.

Guard and Baggage Van . . . . .	1
22 feet Brake Vans . . . . .	3

### New Construction Now in Progress for other Railways.

#### Kalgan Railway.

Thirty Ton High Sided Cars . . . . .	50
22 feet Brake Van . . . . .	1

#### Kirin Railway.

17 inches Mogul Locomotives. . . . .	6
2-6-2 Type Shunters . . . . .	2
22 feet Brake Van . . . . .	1
Third Class Coaches . . . . .	10
Thirty Ton Covered Goods . . . . .	40
Thirty Ton Low Sided Cars . . . . .	20

#### Chuenhan Railway.

22 feet Brake Van . . . . .	1
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#### Canton Kowloon Railway.

First Class Coaches . . . . .	4
Second Class Coaches . . . . .	4
Third Class Coaches . . . . .	8
Composite Coaches . . . . .	2
Third Class, Brake, Mail and Baggage Van. . . . .	3
Baggage and Brake Vans . . . . .	2

### Old Rolling Stock Disposed of.

Private Car . . . . .	1
Old Mud Wagons . . . . .	50
24 ton High Sided . . . . .	10
Cars, 20 ton Low Sided . . . . .	22

### Varnishing and Painting.

Locomotives . . . . .	32
Tenders . . . . .	27
Brake Vans . . . . .	30
Passenger Cars . . . . .	111
Freight Cars . . . . .	441

### Foundry.

Iron Castings . . . . .	532.75 Tons
Brass Castings . . . . .	76.7 Tons

### Average Number of Employees.

Tongshan Works . . . . .	2,644
Kaopantzu Works . . . . .	293
Locomotive Sheds . . . . .	1,495
Total . . . . .	4,432



# Rolling Stock Equipment at 31st December 1910.

	No. of Vehicles	Axles	Tonnage.
<b>Freight Stock.</b>			
<b>10 Ton Capacity:—</b>			
Powder Vans . . . . .	6		60
Coal Cars . . . . .	271		2710
Water Tanks . . . . .	7		70
Pig Cars . . . . .	7		70
<b>12 Ton Capacity:—</b>			
Coal Cars . . . . .	471		5652
<b>15 Ton Capacity:—</b>			
Ballast Cars . . . . .	54		810
<b>20 Ton Capacity:—</b>			
Flat . . . . .	74		1480
Ballast . . . . .	261		5220
High Sided . . . . .	857		17140
Pony . . . . .	43		860
Covered Goods . . . . .	8		160
<b>24 Ton Capacity:—</b>			
Flat . . . . .	1		24
Ballast . . . . .	65		1560
High Sided . . . . .	48		1152
<b>30 Ton Capacity:—</b>			
Ballast . . . . .	38		1140
High Sided . . . . .	411		12330
Covered Goods . . . . .	146		4380
Water Tanks . . . . .	3		90
Oil Tanks . . . . .	41		1230
Timber . . . . .	2		60
<b>Passenger Stock.</b>			
Imperial . . . . .	3	12	
State . . . . .	3	12	
Private . . . . .	13	40	
Directors . . . . .	1	4	
Telegraph Superintendent . . . . .	1	4	
1st Class . . . . .	26	104	
2nd Class . . . . .	40	160	
3rd Class . . . . .	95	380	
Composites . . . . .	17	68	
Ordinary Buffet . . . . .	7	28	
Kitchen Car . . . . .	1	4	
1st Class Buffet . . . . .	2	8	
2nd Class Buffet . . . . .	2	8	
1st Class Sleepers . . . . .	2	8	
2nd Class Sleepers . . . . .	2	8	
Heating and Lighting . . . . .	3	12	
Baggage and Brake . . . . .	3	12	
<b>Brake Vans.</b>			
4 Wheel . . . . .	50	100	
8 Wheel . . . . .	16	64	
<b>Miscellaneous.</b>			
Wrecking Cars . . . . .	9	—	

## Engines.

Passenger :—  
Class

4-4-0	Cylinder	17" × 24"	4	
4-4-0	Cylinder	19" × 24"	3	
4-6-0	Cylinder	18" × 24"	12	19

Freights :—

2-6-0	Cylinder	17" × 24"	44	
2-6-0	Cylinder	19" × 24"	15	
2-6-0	Cylinder	16" × 24"	27	86

Shunters :—

2-6-2	Cylinder	14" × 24"	13	
0-6-0	Cylinder	16" × 24"	4	
0-2-0	Cylinder	11" × 16 1/4"	3	
2-6-4	Cylinder	17" × 24"	2	22

Total Engines 127

## Tenders.

4 Wheel . . . . .	3
6 Wheel . . . . .	26
8 Wheel Bogie . . . . .	84

Total Tenders 113

## Comparative Table of Rolling Stock.

	1909	1910
Passenger Cars and Brake Vans . . . . .	272	287
No. of Axles . . . . .	964	1036
Freight Cars of all Classes . . . . .	2811	2814
Tonnage Capacity . . . . .	55900	56198
Locomotives of all Classes . . . . .	125	127
Weight in Tons . . . . .	5644	5745



### New Machinery Erected.

#### Locomotive and Car Works:—

Band Saw 48 inches . . . . .	1.
High speed double circular moulder . . . . .	1.
Chain cutter mortising machine . . . . .	1.
Automatic band saw sharpener . . . . .	1.
Chain sharpening machine . . . . .	1.
Radiators . . . . .	6.
Hand feed planer moulder and variety wood worker. . . . .	1.
Panel Planing machine with side cutters to plan 30 inches × 6 inches . . . . .	1.
Tenoning machine . . . . .	1.
Planing and matching machine . . . . .	1.
Radial drill . . . . .	1.
Single speed pillar drill . . . . .	1.
Self acting planing machine to plane 12 feet . . . . .	1.
10 inches Gap angle American gap lathes . . . . .	2.

### New Buildings and Repairs.

Templet Room built between bays of Car Works.  
 A Petrol Store built in Store Yard.  
 North lean-to of Saw Mill raised and end columns built.  
 Lean-to for Brass Foundry.  
 Various dwelling Houses repaired and altered.

### Electric Lighting.

New main cable erected and connected up to Car Works.  
 Arc lamp fitted into all bays of Car Works.  
 Electric light installed in Foundry, Boiler House, Time Office, Works Manager's Office.  
 Lighting installation and Electric plant generally maintained in order and repair.  
 Telephone installed in all Shop offices throughout Works.

### Miscellaneous.

Various castings for Cement Works and works executed for Lanchow Mining Company, Tongshan Engineering College, Imperial Railways of North China Traffic and Permanent Way Departments.

### Staff.

A New Works Manager has been engaged during the year and considerable shop reorganization and economies have been effected.

### Traffic Department.

Train miles run for Revenue . . . . .	2,001,900
Train miles for Construction and Maintenance . . . . .	36,957
	<u>2,038,857</u>
Number of Passengers carried . . . . .	3,239,158
Number of Tons of Freight carried . . . . .	2,752,155
Passenger Mileage . . . . .	290,543,845
Ton Mileage . . . . .	259,768,575
Total "Passenger Ton" Mileage . . . . .	<u>550,312,420</u>
Average number of men employed by Traffic Department } including police about 1108 men.	2,619

### TELEGRAPH DEPARTMENT.

#### Length of Wires.

	Miles.
Tungchow and Tungchow Junction . . . . .	16.65
Chienmen and Yingkow (Double Wires) . . . . .	1043.50
Koupantzu and Fengtien (Double Wires) . . . . .	214.50
Hsinminfu and Fengtien (Single Wire) . . . . .	37.37
Tientsin City and Hsiku . . . . .	4.00
Tientsin and Tongku (Telephone Wire) . . . . .	27.00
Fengtai and Lookouchiao . . . . .	3.85
	<u>Miles 1346.87</u>

#### Electric Staff Wires.

Chienmen and Fengtien, and Yingkow . . . . .	Miles 521.75
Number of Messages sent, Service. . . . .	161,831
Number of Messages sent, Outside . . . . .	2,680
	<u>Total 164,511</u>
Average Number of Employees. . . . .	315
Number of Telegraph Stations . . . . .	77
Number of Recorders in use . . . . .	118
Number of Electric Staff Stations . . . . .	70
Number of Electric Staff Apparatus . . . . .	138



